REMARKS

There are now pending in this application Claims 9-11, with Claim 9 being the independent claim. Claims 9-11 have been amended. No new matter has been added.

In the Official Action dated September 18, 2002, the drawings were objected to under 37 C.F.R. § 1.83(a) for not showing every feature specified in the claims. In response, the claims have been amended. Favorable consideration is respectfully requested.

The claims were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In response, Claims 9 and 11 have been amended to clarify or delete those terms deemed to be indefinite. Favorable consideration is requested.

Claims 9-11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over European Patent Application No. 0 633 647 (Katsuotoshi, et al.) in view of Japanese Patent Application No. 58-77946 (Morishita) and Japanese Patent Application No. 6-137375 (Katamura, et al.). Reconsideration and withdrawal of this rejection are respectfully requested in view of the above amendments and the following remarks.

Applicants note that paragraph 4 of the Official Action indicates that Claims 9-12 were rejected under 35 U.S.C. § 103(a). However, Applicants respectfully submit that Claim 12 was cancelled by a previous amendment.

With respect to independent Claim 9, the present invention relates to a driving apparatus comprising a rotary shaft rotatably driven; a first damper attached to the rotary shaft; and a second damper attached to the rotary shaft. The first damper has a first hub as a center of rotation, a rubber material attached to the first hub, and a first inertia member attached to the rubber material. The second damper has a second hub as a center of rotation, having a magnetic force, a second inertia member having a magnetic force and rotatably fitted into the second hub,

and a material provided between the second hub and the second inertia member to transmit a driving force from the second hub by a friction force to the second inertia member.

By using the first and second damper, the vibration of the rotary shaft can be efficiently absorbed when the driving apparatus is moving at a constant speed and when the driving apparatus is accelerating.

The Katsutoshi, et al. patent discloses a shaft 4, vibration preventing rubber 7, and a bracket 6 which is attached to the vibration preventing rubber 7. However, this reference fails to disclose or suggest a second damper attached to the rotary shaft, wherein the second damper has a second hub as a center of rotation, having a magnetic force, a second inertia member having a magnetic force and rotatably fitted into the second hub, and a material provided between the second hub and the second inertia member to transmit a driving force from the second hub by a friction force to the second inertia member.

The Morishita patent discloses a first damper weight provided through an elastic member 6 to an outer periphery of a hub 2 which rotates integrally with a rotary shaft 1 and absorbs the vibration at high speed rotation. This reference also discloses a second damper weight provided through an elastic member 9 to an inner periphery of the hub and absorbs the vibration at low speed.

However, the Morishita patent fails to disclose or suggest the second damper attached to the rotary shaft, wherein the second damper has a second hub as a center of rotation, having a magnetic force, a second inertia member having a magnetic force and rotatably fitted into the second hub, and a material provided between the second hub and the second inertial member to transmit a driving force from the second hub by a friction force to the second inertia member.

Thus, in Morishita the inertia load is greater during acceleration using two rubbers so that the drive source is subjected to overload, and the rubber damper merely absorbs a narrow range of frequency of vibration.

The Katamura, et al. patent discloses a support post 1 received in a fixed member 10 with a gap to prevent the vibration of the support post 1. The vibration is controlled in a vertical direction by controlling the intensity of the magnetic field of the magnetic damper 14.

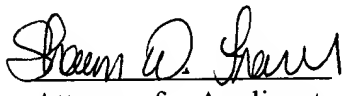
However, the Katamura, et al. patent fails to disclose or suggest the second damper attached to the rotary shaft, wherein the second damper has a second hub as a center of rotation, having a magnetic force, a second inertia member having a magnetic force and rotatably fitted into the second hub, and a material provided between the second hub and the second inertial member to transmit a driving force from the second hub by a friction force to the second inertia member, as disclosed and claimed in the present invention.

For the above reasons, Applicants submit that independent Claim 9 is allowable over the cited art. The dependent claims depend from one or another of the independent claims and are believed allowable for the same reasons. Moreover, each of these dependent claims recite additional features in combination with the features of their respective independent claims and is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Official Action and submit that the application is in condition for allowance. Favorable consideration of the claims and early passage to issue of the present application earnestly are solicited.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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MARKED-UP VERSION SHOWING CHANGES TO THE CLAIMS

9. (Twice Amended) A driving apparatus comprising:

a rotary shaft rotatably driven [at a predetermined speed];

a first damper attached to [having spring characteristics and dash pot characteristics and for absorbing a vibration of] said rotary shaft [while the rotary shaft is accelerated until the rotation speed of the rotary shaft becomes the predetermined speed]; and

a second damper attached [for applying a larger inertia] to said rotary shaft [during rotation at the predetermined speed than while the rotary shaft is accelerated until the rotation speed of the rotary shaft becomes the predetermined speed],

wherein said first damper has a first hub as a center of rotation, a rubber material attached to said first hub, and a first inertia member attached to the rubber material, and

wherein said second damper has a second hub as a center of rotation, having a magnetic force, a second inertia member having a magnetic force and rotatably fitted into said second hub, and a material provided between said second hub and said second inertia member to transmit a driving force from said second hub by a friction force to said second inertia member.

10. (Twice Amended) A driving apparatus according to Claim 9, wherein said first damper is arranged to absorb the vibration caused when said rotary shaft is accelerated for driving [comprises:

a rubber material attached to said rotary shaft; and

an inertia member attached to the rubber material].

11. (Twice Amended) A driving apparatus according to Claim 9, wherein said second damper is arranged to absorb the vibration caused when said rotary shaft drives at a constant speed [comprises:

a hub attached to said second damper and having magnetic properties;

an inertia member disposed out of contact with said hub and having a magnetic force; and

a low frictional material disposed in contact with both said hub and said inertia member between said hub and said inertia member and for transmitting a drive force from said hub to said inertia member by a friction force].